

NISTTech

COMPACT, ROBUST, ALL-PM ERBIUM FIBER FREQUENCY COMB

Docket No. 14-020

Abstract

This patent describes a frequency comb system that is based entirely off polarization maintaining (PM) fiber and commercial PM-telecom components. It can be assembled quickly and reproducibly and has a high level of immunity to environmental factors. The system consists of: a compact, robust, and self-starting oscillator, a normal dispersion PM fiber amplifier for pulse compression and amplification, a PM nonlinear fiber for spectral broadening, and an integrated waveguide frequency-doubler with a novel in-line interferometer for carrier-envelope offset frequency detection. This application describes a frequency comb system that is based entirely off polarization maintaining (PM) fiber and commercial PM-telecom components. It can be assembled quickly and reproducibly and has a high level of immunity to environmental factors.

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References

- Serial No. 62/000,640, Filed on 5/20/2014

Status of Availability

This technology may be available. Please contact NIST's License Officer at (301) 975-2209.

Last Modified: 07/08/2015